REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Appreciation is expressed to Examiner Nguyen for the indication that Claim 3 would be allowable if rewritten in independent form.

Claims 1-6 are currently pending in this application. Claims 4-6 remain withdrawn from further consideration as being directed to the non-elected species. Claims 1-3 remain readable on the elected species.

The only issue raised in the Official Action involves the rejection of Claims 1 and 2 based on the disclosure contained in published British specification No. 1,127,731 to *Montgomerie et al.* in view of the disclosure in U.S. Patent No. 4,807,945 to *Budecker et al.* That rejection is respectfully traversed for at least the following reasons.

As discussed in the earlier filed response, the claims in this application are directed to a hydraulic circuit. As previously recited in Claim 1, the hydraulic circuit comprises a hydraulic pump, a hydraulic actuator, an accumulator fluidly connected between the hydraulic pump and the hydraulic actuator, and a valve mechanism. The accumulator possesses an inflow passage through which hydraulic fluid discharged from the hydraulic pump is introduced into a hydraulic fluid chamber of the accumulator and a discharge passage, independent of the inflow passage, from which the hydraulic fluid from the hydraulic fluid chamber is discharged to the hydraulic actuator. The valve mechanism restricts the discharge of the hydraulic fluid from the hydraulic chamber to the hydraulic actuator when the pressure in the hydraulic fluid chamber is less than a set pressure and releases the restriction on the

discharge of the hydraulic fluid to the hydraulic actuator when the pressure in the hydraulic fluid chamber is at least the set pressure. The valve mechanism also possesses an air discharge passage for discharging air from the hydraulic fluid chamber to the hydraulic actuator in the state in which the accumulator does not operate.

One of the differences between the hydraulic circuit of the present invention and the disclosures contained in the applied documents pertains to the operative relationship between the accumulator and the valve mechanism, and the way in which the valve mechanism restricts the discharge of the hydraulic fluid from the hydraulic chamber and releases such restriction. As noted above, Claim 1 previously recited that the valve mechanism restricts the discharge of the hydraulic fluid when the pressure in the hydraulic fluid chamber is less than a set pressure and releases the restriction on the discharge of the hydraulic fluid when the pressure in the hydraulic fluid chamber is at least the set pressure, and also recited discharging air from the hydraulic fluid chamber to the hydraulic actuator when the accumulator does not operate.

By way of this Amendment, the Claim 1 wording has been clarified to recite the relationship between the previously recited non-operation of the accumulator and the previously recited way in which the valve mechanism restricts the discharge of hydraulic fluid from the hydraulic chamber when the hydraulic fluid chamber pressure is less than a set pressure and releases such restriction when the hydraulic fluid chamber pressure is at least the set pressure. Thus, Claim 1 recites that the accumulator does not operate when the pressure in the hydraulic fluid chamber is less than a set pressure and operates when the pressure in the hydraulic fluid

chamber is at least the set pressure. In addition, Claim 1 recites that the valve mechanism restricts the discharge of the hydraulic fluid from the hydraulic fluid chamber to the hydraulic actuator in a state in which the accumulator does not operate and releases the restriction on the discharge of hydraulic fluid to the hydraulic actuator in a state in which the accumulator operates.

Montgomerie et al. discloses a hydraulic device that includes, as illustrated in Fig. 4, a bellows positioned inside a vessel 42 and formed from dished resilient washers 43 and an endplate 44. A high pressure port 40 communicates with the space inside the vessel 42, but outside the bellows, through a passage 41. The high pressure port 40 also communicates with the interior of the bellows through a restricted orifice 45. The endplate 44 carries a control element 47 positioned within a sleeve 48. Fluid in the bellows can flow to a low pressure port 49 by way of a groove 47a in the control element 47 and the sleeve 48. When fluid flows from the high pressure port 40 to the low pressure port 49, the restricted orifice 45 causes the pressure within the bellows to fall below the pressure outside the bellows. When the pressure difference is sufficiently high to overcome the pre-stressing of the washers 43 forming the bellows (i.e., the operational state of the bellows), the control element 47 moves into the sleeve 48 as the pressure drop rises. As the pressure difference increases, the flow through the control element 47 is progressively restricted, thus restricting the discharge of hydraulic fluid from the fluid chamber within the bellows to the low pressure port 49. On the other hand, when the pressure difference is not sufficient to overcome the pre-stressing of the washers 43 forming the bellows, the bellows does not contract (i.e., the non-operational state of the bellows) but rather maintains the shape illustrated in Fig. 4. In this non-operational state of the

accumulator the control element 47 is not displaced into the sleeve 48 and does not restrict the discharge of hydraulic fluid from the fluid chamber within the bellows to the low pressure port 49.

It is thus seen that the arrangement disclosed in *Montgomerie et al.* is specifically designed so that the non-operation state of the bellows depends on the pressure difference between the inside of the bellows and the outside of the bellows. *Montgomerie et al.* does not disclose that the non-operation state of the bellows depends on the pressure in the fluid chamber within the bellows being less than a set pressure as recited in independent Claim 1. In addition, the arrangement disclosed in *Montgomerie et al.* is specifically designed so that the control element 47 restricts the discharge of hydraulic fluid from the fluid chamber within the bellows to the low pressure port 49 in the operation state of the bellows and releases such restriction in the non-operation state of the bellows. This differs from the valve mechanism operation recited in Claim 1.

Budecker et al. is relied upon in the Official Action for its disclosure of positioning an accumulator between a pump and an actuator. However, the disclosure in *Budecker et al.* does not make up for the deficiencies pointed out above with respect to the disclosure in *Montgomerie et al.* Accordingly, even if one were motivated to modify the hydraulic device described in *Montgomerie et al.* based on the disclosure in *Budecker et al.* as proposed in the Official Action, the result would not be that which is defined in independent Claim 1 as the invention. Claim 2 depends from Claim 1 and is allowable at least by virtue of its dependence from such allowable claim.

In light of the foregoing, withdrawal of the rejection of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: April 8, 2005

By: _____
Matthew L. Schneider
Registration No. 32,814

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620